

12.1.4 Fish - (Fish Kills and Complaint Investigations)

A. EQUIPMENT

1. Waders
2. Nets of electroshocking equipment for collecting live fish.
3. Thermometers
4. Dissolved oxygen meter or Winkler titration kit
5. Sample bottles and preservatives for collecting water samples.
6. Plastic bags, aluminum foil, and jars for collecting sediment samples
7. Dissecting equipment and Bouins solution for preserving organs for histological examination
8. Notebook, pens, pencils and waterproof marker
9. Camera and film
10. Saturometer (if below a dam)
11. Cooler and ice for storing water, sediment, and fish samples
12. Chain-of-custody forms

B. COLLECTION

1. The DEQ seldom collects fish except in the course of a fish kill investigation. Occasionally, dead fish are observed in the conduct of other complaint investigations (illegal discharges, pesticide/herbicide misuse, etc.) and the collection of dead and/or live fish becomes necessary to determine cause, source, severity, and extent of the pollution problem.

Section No. 12.0
Revision No. 0
Date: 4/1/95

2. Dead fish (preferably freshly dead) are wrapped in aluminum foil, placed in a plastic bag, labeled, and frozen as soon as possible (keeps specimens iced until returned to the laboratory).

3. Histological samples must be collected from living fish. Decomposition of dead tissue masks tissue damage that may have been caused by the toxicant. If sick or dying fish cannot be readily collected, specimens should be collected by electrofishing or netting. Small pools are shocked most easily. Fish which are momentarily immobilized can be netted.

4. Gill and liver tissue should be taken and immediately preserved in Bouin's solution. The volume of tissue collected should not exceed 1/10th the volume of Bouin's solution used - packing too much tissue prevents some surfaces from being properly preserved. Arrangements should be made to send preserved tissue to Beth MacConnell, U.S. Fish and Wildlife Service, Bozeman (587-9265) for histological testing.

5. Note and record any unusual symptoms exhibited by the fish. For example, fish killed by metals often have a precipitate present on the gills. Some fish diseases cause characteristic symptoms. Photographs should be taken of fish exhibiting unusual symptoms.